

City of Garretson

Annual Drinking Water Quality Report January 1, 2016 – December 31, 2016

Introduction

The purpose of this report is to inform you of the quality of the drinking water that we provide. We are required by the U.S. Environmental Protection Agency (EPA) to test our water frequently for the presence and concentrations of over 80 different substances. The South Dakota Department of Environment and Natural Resources (DENR) reviews all of our testing data to ensure that 1) we are providing safe drinking water to our customers, and 2) we are complying with EPA regulations

We want you to fully understand the information contained in this report. If you have any questions, please contact:

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City of Garretson
P.O. Box 370
Garretson, SD 57030-0370
Phone: (605) 594-6723

Information provided by the EPA

In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

Where does our water come from?

Our drinking water comes from Minnehaha Community Water Corporation. (MCWC) Their source of drinking water comes from ground water from the Big Sioux Aquifer. This is a shallow aquifer that lies near the Big Sioux River.

Why do we test our drinking water?

The water we receive from Minnehaha Community Water Corporation (MCWC) is pumped from wells in an underground aquifer. The water originally comes from the surface, and very slowly seeps down into the aquifer. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals, and can pick up substances resulting from the presence of animals or from human activity. Too much of any substance, either naturally occurring or resulting from human activities, can be considered a contaminant.

Contaminants that may be present in source water include:

Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, or runoff from mining or farming activities.

Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.

Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.

Radioactive contaminants, which are naturally occurring in some of the rocks in this region.

What treatment does our water receive?

The water we receive from MCWC goes through their treatment plant to reduce hardness. Iron and manganese are two other minerals that are removed in the treatment process. The water pumped to our water tower is disinfected with chlorine before entering our system, to ensure it safe to drink.

Definition of Terms and Units

The following definitions are provided to assist you in understanding our water quality test results and the following discussion of the results.

Action Level (AL) - The concentration of a contaminant that, if exceeded, triggers treatment or other requirements, which a water system must follow.

Maximum Contaminant Level (MCL) - The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Treatment Technique (TT) - A required process intended to reduce the level of a contaminant in drinking water.

MFL: million fibers per liter

mrem/year: millirems per year (a measure of radiation absorbed by the body)

NTU: Nephelometric Turbidity Units

pCi/l: picocuries per liter (a measure of radioactivity)

ppm: parts per million, or milligrams per liter (mg/l)

ppb: parts per billion, or micrograms per liter (ug/l)

ppt: parts per trillion, or nanograms per liter

ppq: parts per quadrillion, or picograms per liter

pspm: positive samples per month

The City of Garretson public water system purchases 100% of their water from Minnehaha Community Water Corp (0432).

2016 Table of Detected Contaminants for Garretson (EPA ID 0138)

Terms and abbreviations used in this table:

* **Maximum Contaminant Level Goal (MCLG)**: the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

* **Maximum Contaminant Level (MCL)**: the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

* **Action Level (AL)**: the concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow. For Lead and Copper, 90% of the samples must be below the AL.

* **Treatment Technique (TT)**: A required process intended to reduce the level of a contaminant in drinking water. For turbidity, 95% of samples must be less than 0.3 NTU

Units:

* **MFL**: million fibers per liter

* **ppt**: parts per trillion, or nanograms per liter

* **ppm**: parts per million, or milligrams per liter (mg/l)

* **NTU**: Nephelometric Turbidity Units

* **pCi/l**: picocuries per liter (a measure of radioactivity)

* **mrem/year**: millirems per year (a measure of radiation absorbed by the body)

* **ppq**: parts per quadrillion, or picograms per liter

* **ppb**: parts per billion, or micrograms per liter (ug/l)

* **pspm**: positive samples per month

Substance	90% Level	Test Sites > Action Level	Date Tested	Highest Level Allowed (AL)	Ideal Goal	Units	Major Source of Contaminant
Copper	0.0	0	09/01/2014	AL=1.3	0	ppm	Corrosion of household plumbing systems; erosion of natural deposits leaching from wood preservatives.
Lead	4.0	1	09/03/2014	AL=15	0	ppb	Corrosion of household plumbing systems; erosion of natural deposits

Substance	Highest Level Detected	Range	Date Tested	Highest Level Allowed (MCL)	Ideal Goal (MCLG)	Units	Major Source of Contaminant
Alpha emitters *	1	ND - 1	04/30/12	15	0	pCi/l	Erosion of natural deposits.
Antimony *	0.4	ND - 0.4	11/15/12	6	6	ppb	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder.
Barium *	0.017	0.015 - 0.017	11/15/12	2	2	ppm	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
Chromium *	0.8	0.7 - 0.8	11/15/12	100	100	ppb	Discharge from steel and pulp mills; erosion of natural deposits.
Fluoride *	1.24	1.04 - 1.24	08/22/13	4	4	ppm	Erosion of natural deposits; water additive which promotes strong teet discharge from fertilizer and aluminum factories.
Haloacetic Acids	10.3	9.15-10.3	09/06/2016	60	0	ppb	By-product of drinking water chlorination.
Nitrate (as Nitrogen) *	1.0	ND - 20.2	10/22/12	60	10	ppb	By-product of drinking water chlorination.
Selenium *	1.7	1.1 - 1.7	11/15/12	50	50	ppb	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines.
Total trihalomethanes	11.7	11.2-11.7	09/06/2016	80	0	ppb	By-product of drinking water chlorination.
Total trihalomethanes				80	0	ppb	By-product of drinking water chlorination.

Please direct questions regarding this information to Mr Craig Nussbaum with the Garretson public water system at (605)594-6723.

* Minnehaha Community Water Corp (0432) test result.

Summary of 2016 Water Quality Tests Results

MCWC routinely test their water for many different substances. Of those more than 80 substances, only the substances shown in the table were detected.

Chlorine is what we use to disinfect the water, making it safe to drink. Chlorine helps prevent coliform in the water. Coliform is another substance that the state requires us to test for on a monthly basis. In 2016, we did not have any positive samples.

For the City of Garretson to receive a violation, a submitted sample must exceed the allowable contaminant level set by the EPA. Our water system did not exceed any of the EPA's allowable contaminant level for the year 2016.

We Welcome Your Input

The Garretson City Council meets the first Monday of every month at 6:30 p.m. in City Hall, at 705 Main Avenue. If you would like to attend one of the meetings you are welcome, the council provides an opportunity for public input.

The following graph has been submitted by MCWC to provide us with their test results for substances found in their water in 2016. These results assure us that they are providing us with excellent quality drinking water.

2016 TABLE OF DETECTED CONTAMINANTS

Substance	Sample Date	Highest Level Detected	Range of Detection	Ideal Goals (MCLG)	Highest Level Allowed (MCL)	Likely Source of Substance
Alpha Emitters	04/30/2012	1.0 pCi/l		0	15 pCi/l	Erosion of natural deposits
Alpha Emitters				0	15 pCi/l	Erosion of natural deposits
Antimony	11/15/12	0.4 ppb	ND-0.4	6	10	Discharge from petroleum refineries; fire retardants; Ceramics; electronics; solder
Barium	11/15/12	.017ppb	0.015-0.017	2	2	Discharge of drilling waste; discharge from metal Refineries; erosion of natural deposits
Chromium	011/15/12	0.8 ppb	0.7-0.8	100	100	Discharge from steel and pulp mills; erosion of Natural deposits
Fluoride	11/7/16	0.94 ppm	0.3-0.94	4	4	Erosion of natural deposits; water additive which promotes Strong teeth; discharge from fertilizer and aluminum factories
Fluoride*	1/4/16	1.11 ppm	0.68-1.11	4	4	Erosion of natural deposits; water additive which promotes Strong teeth; discharge from fertilizer and aluminum factories
Haloacetic Acids	09/3/13	16.3 ppb	6.12-28.0	0	60	By product of drinking water chlorination
Nitrate (as Nitrogen)	05/19/16	0.3ppm	N/A	10	10	Fertilizer runoff; leaking septic tanks; erosion of natural deposits
Nitrate (as Nitrogen)*	07/14/16	0.6ppm	N/A	10	10	Fertilizer runoff; leaking septic tanks; erosion of natural deposits
Selenium	11/15/12	1.7 ppb	1.1-1.7	50	50	Discharge from petroleum and metal refineries; erosion Of natural deposits; discharge from mines
Total Trihalo-methanes	09/3/13	28.3 ppb	13.6-37	0	80	By-products of drinking water chlorination

Substance	Date Sampled	90% Level	# of Samples >Action limit	Ideal Goals MCLG	Highest Level Allowed	Likely source Of substance
Copper	09/17/15	0.1 ppm	0	0	AL-1.3	Corrosion of Household Plumbing system; Erosion of natural deposits; leaching from wood preservatives
Lead	09/17/15	2 ppb	0	0	AL=15	Corrosion of household Plumbing systems; erosion of natural deposits

*Lewis & Clark Regional Water System (2288) test result

**PROVIDED BY MINNEHAHA COMMUNITY WATER CORPORATION